

Channel-Based Testing of Communication Link

ABSTRACT

5 A communication link receiver for use in a data processing system includes a receive interface, a clock/data recovery (CDR) circuit, and a debug unit. The receive interface receives a test signal from the communication channel. The CDR circuit is configured to extract a clock signal and a test data signal from the received signal. A debug unit determines a bit error rate (BER) of the test data signal and at least one jitter characteristic of the communication link. The
10 debug unit further includes a test advisor to recommend corrective action, based on the BER and the jitter characteristic(s) when the BER exceeds a predetermined threshold. The corrective action recommended can include transmitting an additional test pattern when the BER is high, but the jitter characteristics are acceptable or modifying a CDR characteristic, such as the sampling rate or bandwidth, when the BER and at least one jitter characteristic exceed their
15 predetermined thresholds.